

Appl. No. : 10/628,079
Filed : July 24, 2003



AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently amended) An apparatus for the enhancement of fusion of at least two adjacent vertebrae comprising:

at least a superior and an inferior endpiece, wherein said superior endpiece is adapted to be affixed to a superior vertebral body, and said inferior endpiece is adapted to be affixed to an inferior vertebral body; and

~~a compressible portion located between said superior and inferior endpieces.~~

a compressible sliding section, wherein said sliding section comprises a first slider and a second slider, and wherein each back of each slider comprises a flange that fits within a port in each endpiece, thereby joining each slider to a respective endpiece.

2. (Cancelled)

3. (Cancelled)

4. (Currently amended) The apparatus of Claim ~~—4—~~1, wherein ~~the sliding mechanism~~ said sliding section ~~further~~ comprises:

a first slider and a second slider; wherein said first and second slider have approximately U-shaped geometry, and each slider further comprises:

a first arm,

a second arm, and

a back, wherein said first arm and said second arm of each slider are parallel, wherein said first arm of said first slider mates with said second arm of said second slider, and said second arm of said first slider mates with said first arm of said second slider, such that said backs of said sliders are positioned parallel to each other, wherein each back of each slider ~~is joined to an endpiece~~

comprises a flange that fits within a port in each endpiece, thereby joining the slider and endpiece,

a plurality of teeth located on at least one of said first arms, wherein said teeth face towards said second arm of the same slider piece,

a gear engaged with said plurality of teeth, wherein rotating said gear moves the arms within each set of mating arms relative to each other, positioning the apparatus into a compressed arrangement.

5. (Original) The apparatus of Claim 4, further comprising a housing, wherein said housing further accommodates said sliders and said gear.

6. (Original) The apparatus of Claim 4, further comprising a lock to secure the apparatus in a compressed configuration.

7. (Original) The apparatus of Claim 4, wherein each back of each slider is integral to an endpiece, thereby joining the slider and endpiece.

8. (Cancelled)

9. (Original) The apparatus of Claim 4, further comprising a fixing plate, wherein said fixing plate is located between said superior and said inferior endpieces and is positioned and configured to be affixed to an intermediate vertebral body located between said superior and said inferior vertebral bodies.

10. (Original) The apparatus of Claim 9, wherein the fixing plate is located between and connected to said mating arms of said slider pieces.

11. (Original) The apparatus of Claim 1, wherein the plate is contoured to accommodate lordosis.

12. (Original) The apparatus of Claim 1, wherein the apparatus is made of a bioabsorbable material.

13. (Currently amended) The apparatus of Claim 1, further comprising: ~~a superior and an inferior endpiece, wherein said superior and said inferior endpieces are adapted to be affixed to superior and inferior vertebral bodies, respectively;~~

at least one intermediate endpiece, wherein each said intermediate endpiece is located between two endpieces, wherein one endpiece is superior to and the other endpiece is inferior to said intermediate endpiece, and wherein said intermediate endpiece

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is adapted to be affixed to a vertebral body intermediate said superior and said inferior vertebral bodies, and wherein said intermediate endpiece is connected to each said adjacent endpieces via a compressible device.

14. (Currently amended) A method of enhancing fusion between vertebral bodies comprising:

- accessing a spinal portion;
- affixing respective endpieces to superior and inferior vertebral bodies;
- engaging a compressible central body with said endpieces after said affixing;
- adjusting the distance between said endpieces into a compressed position; and
- locking said apparatus in the compressed position.

15. (Original) The method of Claim 14, wherein adjusting the distance between said endpieces further comprises sliding each mate in a set of mating arms relative to each other.

16. (Original) The method of Claim 15, wherein sliding each mate in a set of mating arms relative to each other further comprises turning a gear engaged to a plurality of teeth on at least one arm within at least one set of mating arms.

17. (Currently amended) A method of enhancing fusion in a multilevel vertebral fusion comprising:

- accessing a spinal portion;
- removing some or all of at least two spinal disks;
- affixing respective endpieces to superior and inferior vertebral bodies;
- affixing at least one intermediate endpiece to an intermediate vertebral body between said superior and inferior vertebral bodies;

- engaging a compressible central body with said intermediate endpiece and another one of said endpieces after said affixing;

- adjusting the distance between said engaged endpieces into a compressed position; and

- locking said engaged endpieces in the compressed position.

18. - 21. (Cancelled)

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22. (Currently amended) An apparatus for the enhancement of fusion of at least two adjacent vertebrae comprising:

at least a superior and an inferior endpiece, wherein said superior and said inferior endpieces are adapted to be affixed to superior and inferior vertebral bodies, respectively;
and

means for decreasing the distance between said endpieces to bring the apparatus into a compressed arrangement-; and

means for removably coupling during surgery the endpieces to said means for decreasing.

23. (Currently amended) An apparatus for the enhancement of fusion of at least two adjacent vertebrae comprising:

at least a superior and an inferior endpiece, wherein said superior and said inferior endpieces are adapted to be affixed to superior and inferior vertebral bodies, respectively;
and

a compressible portion, wherein the compressible portion further comprises:

a parallel set of mating arms; and

a means for sliding each arm within each set of mating arms relative to the other mate within the set, thereby decreasing the distance between said endpieces, bringing the apparatus into a compressed arrangement-; and

means for removably coupling during surgery the endpieces to said compressible portion.

24. (Original) The apparatus of Claim 23, further comprising a means for securing the apparatus in a compressed arrangement.

25. (New) The method of Claim 14, wherein said engaging a compressible central body further comprises fitting a flange on the back of a slider to a port in at least one of said endpieces.

26. (New) The method of Claim 14, wherein said engaging a compressible central body further comprises riveting a slider to at least one of said endpieces.

27. (New) The method of Claim 14, wherein said engaging a compressible central body further comprises screwing a slider to at least one of said endpieces.

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28. (New) The method of Claim 17, wherein said engaging a compressible central body further comprises fitting a flange on the back of a slider to a port in at least one of said endpieces.

29. (New) The method of Claim 17, wherein said engaging a compressible central body further comprises riveting a slider to at least one of said endpieces.

30. (New) The method of Claim 17, wherein said engaging a compressible central body further comprises screwing a slider to at least one of said endpieces.